

4 generating a series of one or more non-ablative laser pulses to be delivered to the area of
5 tissue to be treated in order to raise a temperature at the surface of the area of tissue to be
6 C1 treated to a temperature sufficient to generate coagulation at the coagulation depth when
7 the laser source is in a coagulation mode, wherein the laser source comprises two or more
8 lasers for generating two or more corresponding laser beams which are alternated to
9 produce a single laser output which provides the series of one or more non-ablative laser
10 pulses.

2. (Amended) The medical laser delivery apparatus as claimed in claim 1 wherein the single
laser output is focussed to the target tissue through an arm feature.

1 3. (Amended) The medical laser delivery apparatus as claimed in claim 2 wherein the arm
2 C2 feature is an articulated arm and one or more refocussing optics for refocussing the laser
3 pulses as they travel through the articulated arm.

1 4. (Amended) The medical laser delivery apparatus as claimed in claim 3 wherein the laser
2 delivery system further comprises a scanning handpiece at an end of the arm feature for
3 guiding the series of one or more non-ablative laser pulses to the area of tissue being
4 treated.

1 11. (Thrice Amended) A medical laser comprising:

- 2 a. a laser source having two or more lasers which are combined in an alternating
3 fashion for generating a laser output having a predetermined absorption, wherein
4 C3 the predetermined absorption forms a predetermined coagulation depth; and
5 b. a laser control system coupled to the laser source for controlling the laser source
6 to generate a plurality of coagulative laser pulses from the laser output, such that
7 each such coagulative laser pulse is delivered in sequence to a target area.

1 15. (Canceled)

1 16. (Canceled)

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17. (Thrice Amended) A medical laser delivery apparatus for treating an area of tissue comprising:
- a. a laser source having two or more lasers which are combined in an alternating fashion into a single laser output by a combining apparatus for generating a series of one or more laser pulses each having a strength and a duration;
 - b. a laser delivery system coupled to the laser source for delivering the laser pulses from the laser source to the area of tissue being treated;
 - c. a control system coupled to the laser source for controlling generation of the laser pulses from the laser source, wherein the laser source operates in both an ablation mode and a coagulation mode such that when in the ablation mode, the strength and duration of the laser pulses are sufficient to ablate tissue at the area of tissue being treated to a controllable ablation depth and when in the coagulation mode, the strength and duration of the laser pulses are sufficient to generate a coagulation region having a controllable coagulation depth within the tissue remaining at the area of tissue being treated without ablating any tissue.

1 25. (Canceled)

1 26. (Canceled)

1 27. (Canceled)

1 28. (Canceled)

1 29. (Canceled)

1 30. (Canceled)

1 31. (Canceled)

1 32. (Canceled)

1 33. (Canceled)

1 34. (Canceled)

1 35. (Canceled)

1 36. (Canceled)

1 37. (Canceled)

1 38. (Canceled)

1 39. (Canceled)

1 40. (Canceled)

1 41. (New) A dual mode medical laser system, for sequentially ablating and coagulating a
2 region of target tissue with ablation laser pulses followed by coagulation laser pulses to
3 the region of target tissue, the dual mode medical laser system comprising:
4 a. a laser source comprising a first laser and a second laser for generating a first laser
5 beam and a second laser beam at a same wavelength;
6 b. means to alternate between the first laser beam and the second laser beam to
7 provide a single laser output to provide the ablation laser pulses and the
8 coagulation laser pulses; and
9 c. means to direct the single laser output to the region of the target tissue.

1 42. (New) The dual mode medical laser system of claims 41 wherein the first laser and the
2 second laser are Er:YAG lasers.

1 43. (New) The dual mode medical laser system of claim 41 wherein the means to alternate
2 between the first laser beam and the second laser beam is a galvanometer.

1 44. (New) The dual mode medical laser system of claim 41 further comprising a user
2 interface, wherein a user selects an ablation depth and a coagulation depth and wherein a

3 series of the ablation laser pluses with a fluence corresponding to the selected ablation
4 depth are generated followed by a series of the coagulation laser pulses with a fluence
5 corresponding to the selected coagulation depth.

1 45. (New) The dual mode medical laser system of claim 44 wherein the user interface
2 comprises a mode selector for selecting between manual mode and scan mode, wherein
3 the user further selects a scan size and a laser pulse pattern with the scan mode selected.

1 46. (New) The dual mode medical laser system of claim 45 wherein the user interface is a
2 graphical user interface for displaying the selected laser pulse pattern.

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1 47. (New) The dual mode medical laser system of claim 41 wherein the ablation laser pulses
2 have a duration of approximately 500 microseconds and a fluence of approximately 2
3 Joules/cm².

1 48. (New) The dual mode medical laser system of claim 41 wherein the coagulation laser
2 pulses have a duration of approximately 150 microseconds and a fluence of
3 approximately 200 milliJoules/cm².

1 49. (New) The dual mode medical laser system of claim 41 wherein the means to direct the
2 single laser output to the region of the target tissue comprises an articulated arm feature
3 with a plurality of refocussing lenses for guiding and focussing the single laser output
4 through the articulated arm feature.
